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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

STREGE, JOHN B

ART UNIT

PAPER NUMBER

2624

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/530,447	Applicant(s) YU ET AL.	
	Examiner JOHN B. STREGE	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) 21-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 38-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>04/05/05</u> . | 6) <input type="checkbox"/> Other: _____ |

Election/Restrictions

1. Claims 21-37 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 05/07/09.

In the original restriction the Examiner recited that claims 1-20, and 38-44 belong to group I, however it is apparent that the dependent claims 45 and 46 also belong to group I thus they will be examined herein also. Thus the examined claims are 1-20 and 38-46.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-20, and 38-46 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-50 of U.S. Patent No. 7,103,205 in view of Shmulewitz US 5,938,613.

Regarding claim 1, '205 discloses a system for processing medical image data corresponding to a breast,

comprising:

a source of a three-dimensional data volume representing at least one physical property within the breast (claim 1 lines 3-4);

a processor coupled with said source to receive said three-dimensional data volume to compute therefrom a two-dimensional thick-slice image representing said at least one physical property of the breast in a slab-like subvolume thereof (claim 1 lines 5-9);

a display coupled with said processor and displaying said thick-slice image to a viewer (claim 1 lines 5-13).

'205 does not explicitly disclose an archiving device coupled with said processor to receive said two-dimensional thick-slice image, said archiving device generating an archival dataset including said two-dimensional thick-slice image, said archiving device transferring said archival dataset to a tangible storage medium for archiving purposes. However it is well known if not inherent that for images to be displayed they must be stored on some type of storage device.

Shmulewitz discloses system software 84 for storing ultrasonic slice images in a storage device 89 so that the views of the slice images may be manipulated at a later time (col. 15 lines 6-15).

'205 and Shmulewitz are analogous art because they are from the same field of endeavor of sonomammography.

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine '205 and Shmulewitz to store the slice images that were acquired to allow manipulation of the images at a later time by a viewer. Thus it would have been obvious to combine '205 and Shmulewitz to obtain the invention of claim 1.

The remaining claims are mapped in a similar fashion to the above claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 5, 9-10,13-16,38-40, and 43-46 are rejected under 35 U.S.C. 102(b) as being anticipated by Shmulewitz US 5,938,613.

Regarding claim 1, Shmulewitz discloses a system for processing medical image data corresponding to a breast,

comprising:

a source of a three-dimensional data volume representing at least one physical property within the breast (an ultrasound transducer 16 computes a series of slice images of the breast which taken together form a three dimensional volume of the breast, paragraph bridging cols. 10-11);

a processor coupled with said source to receive said three-dimensional data volume to compute therefrom a two-dimensional thick-slice image representing said at least one physical property of the breast in a slab-like subvolume thereof (col. 11 lines 7-30);

a display coupled with said processor and displaying said thick-slice image to a viewer (col. 11 lines 7-30); and

an archiving device coupled with said processor to receive said two-dimensional thick-slice image, said archiving device generating an archival dataset including said two-dimensional thick-slice image, said archiving device transferring said archival dataset to a tangible storage medium for archiving purposes (col. 14 line 66 – col. 15 line 15).

Regarding claim 2, Shmulewitz discloses allowing data stored in storage device 89 to be manipulated so that holographic views may be generated and viewed from different angles (col. 15 lines 6-15).

Regarding claim 5, as seen in figure 8 there is a user input device for receiving input identifying a location of interest in the breast and displaying an image.

Regarding claims 9-10, as discussed Shmulewitz discloses computing multiple slice images corresponding to the volume of the breast all of which are archived.

Regarding claims 13-16, as seen in figure 8 there is a user input device for receiving input identifying a location of interest in the breast and displaying an image.

Claim 38 is similar to claim 1, thus only the limitations not already addressed will be discussed. Claim 38 includes the additional limitations disclosed by Shmulewitz of

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displaying said two-dimensional thick-slice image to a viewer in conjunction with at least one x-ray mammogram image of the breast (figure 8, lines 7-30); and

generating an archival dataset including said two-dimensional thick-slice image and including data that associates said two-dimensional thick-slice image with said at least one x-ray mammogram image (col. 14 line 66 – col. 15 line 15).

Claim 39 is similarly analyze to claim 2.

Regarding claim 40, the property is a CT detectable property.

Claims 43-46 are similarly analyzed to claims 13-16.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shmulewitz.

Regarding claims 19-20, Shmulewitz does not explicitly disclose annotating abnormalities in the image data, however it is well known to carry out annotations of mammograms and ultrasound to mark the places where an abnormality exists and store the data for purposes of following up and proceeding with treatment thus the Examiner declares official notice. It would have been obvious to one of ordinary skill in the art to

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allow annotating abnormalities to allow the practitioner to mark possible areas of concern for further reference.

Allowable Subject Matter

Claims 3-4, 6-8, 11-12, 17-18, 41-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and also assuming that the double patenting rejection is overcome with a terminal disclaimer.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN B. STREGE whose telephone number is (571)272-7457. The examiner can normally be reached on Monday-Friday between the hours of 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John B Strege/
Primary Examiner, Art Unit 2624